

Solving Quadratic Equations by Factoring: Challenge Problems

1. Solve:

a) $3x^3 + 21x^2 + 36x = 0$

b) $2a^3 - 18a^2 = -36a$

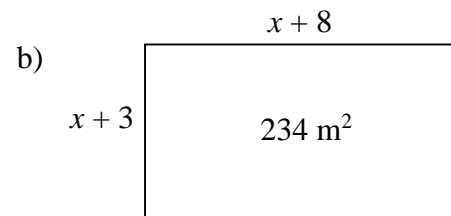
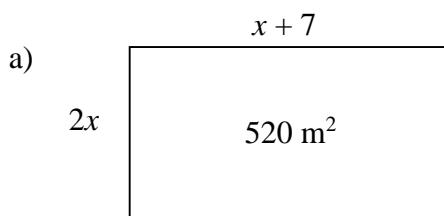
c) $x^4 - 13x^2 + 36 = 0$

d) $x^4 + 2x^2 + 1 = -x^2 + 5$

e) $(5x-2)^2 - (3x-4)^2 = 0$

f) $2x^2 + 3xy + 18y^2 = x^2 - 6xy$

2. Determine the dimensions of each rectangle:



Answers:

1. a) $x = -4, -3, 0$ b) $x = 0, 3, 6$ c) $x = -2, 2, -3, 3$ d) $x = -1, 1$ e) $x = \frac{3}{4}, -1$ f) $x = -6y, -3y$

2. a) 26 m by 20 m b) 13 m by 18 m